

QUESTION 1 : SIMPLE COMPUTER APPLICATION :

```
import java.util.Scanner;

class Main {

    public static void main(String[] args) {

        char op;

        Double num1, num2, result;

        Scanner input = new Scanner(System.in);

        System.out.println("Choose an operator: +, -, *, or /");

        op = input.next().charAt(0);

        System.out.println("Enter first number");

        num1 = input.nextDouble();

        System.out.println("Enter second number");

        num2 = input.nextDouble();

        switch (op) {

            case '+':

                result = num1 + num2;

                System.out.println(num1 + " + " + num2 + " = " + result);

                break;

            case '-':
```

```
    result = num1 - num2;

    System.out.println(num1 + " - " + num2 + " = " + result);

    break;

case '*':

    result = num1 * num2;

    System.out.println(num1 + " * " + num2 + " = " + result);

    break;

case '/':

    result = num1 / num2;

    System.out.println(num1 + " / " + num2 + " = " + result);

    break;

default:

    System.out.println("Invalid operator!");

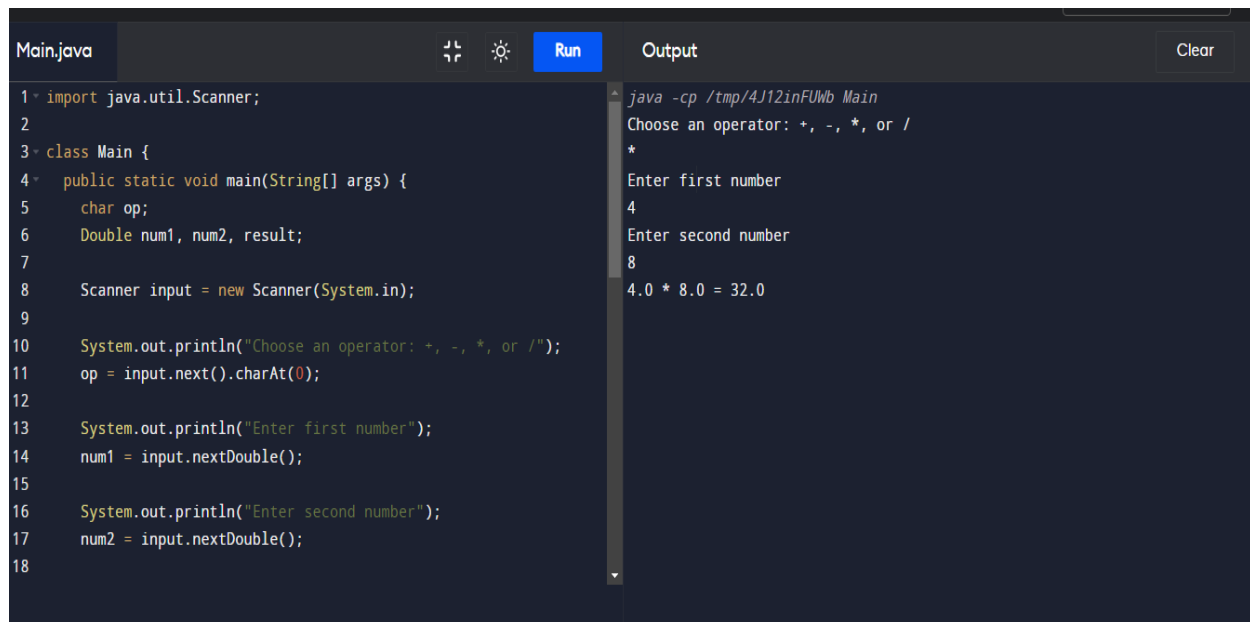
    break;

}

input.close();

}

}
```



The screenshot shows a Java IDE with a file named 'Main.java'. The code is a simple calculator that prompts the user to choose an operator (+, -, *, or /), then enters two numbers and calculates the result. The output window shows the execution of the program with the inputs 4 and 8, and the result 32.0.

```
1 import java.util.Scanner;
2
3 class Main {
4     public static void main(String[] args) {
5         char op;
6         Double num1, num2, result;
7
8         Scanner input = new Scanner(System.in);
9
10        System.out.println("Choose an operator: +, -, *, or /");
11        op = input.next().charAt(0);
12
13        System.out.println("Enter first number");
14        num1 = input.nextDouble();
15
16        System.out.println("Enter second number");
17        num2 = input.nextDouble();
18    }
19 }
```

Output:

```
java -cp /tmp/4J12inFUWb Main
Choose an operator: +, -, *, or /
*
Enter first number
4
Enter second number
8
4.0 * 8.0 = 32.0
```

QUESTION 2 : NUMBER GUESSING GAME

```
import java.util.Scanner;
```

```
import java.util.Random;
```

```
public class NumberGuessingGame {
```

```
    public static void main(String[] args) {
```

```
        Scanner scanner = new Scanner(System.in);
```

```
        Random randomGenerator = new Random();
```

```
        int lower = 1;
```

```
        int upper = 100;
```

```
int target = randomGenerator.nextInt(upper - lower + 1) + lower;

int attempts = 0;

boolean correctguess = false;

System.out.println("I've chosen a random number between " + lower + " and " + upper + ". Try to
guess it.");

while (!correctguess) {

    System.out.print("Enter your guess: ");

    int ug = scanner.nextInt();

    attempts++;

    if (ug < lower || ug > upper) {

        System.out.println("Please enter a number between " + lower + " and " + upper + ".");

    } else if (ug < target) {

        System.out.println("Too low! Try again.");

    } else if (ug > target) {

        System.out.println("Too high! Try again.");

    } else {

        correctguess = true;

        System.out.println("Congratulations! You guessed the number " + target + " correctly in " +
attempts + " attempts.");

    }

}

scanner.close();

}
```

}

```
Main.java Run Output Clear
1 import java.util.Scanner;
2 import java.util.Random;
3
4 public class NumberGuessingGame {
5     public static void main(String[] args) {
6         Scanner scanner = new Scanner(System.in);
7         Random randomGenerator = new Random();
8
9         int lower = 1;
10        int upper = 100;
11        int target = randomGenerator.nextInt(upper - lower + 1)
            + lower;
12        int attempts = 0;
13        boolean correctguess = false;
14        System.out.println("I've chosen a random number between
            " + lower + " and " + upper + ". Try to guess it.");
15
16        while (!correctguess) {
```

```
java -cp /tmp/4J12inFUWb NumberGuessingGame
I've chosen a random number between 1 and 100. Try to guess it.
Enter your guess: 35
Too low! Try again.
Enter your guess: 50
Congratulations! You guessed the number 50 correctly in 2 attempts.
```